

## ABSTRACT OF THE DISCLOSURE

A multi-stage compressor system that compresses air supplied to a cathode of a fuel cell system includes a first stage compressor that compresses inlet air to provide a first pressurized air stream at a first pressure. A second stage compressor includes a compression unit that compresses the first pressurized air stream to a second pressurized air stream at a second pressure. A drive unit drives the compression unit using expansion energy of an exhaust stream of the fuel cell. A first heat exchanger enables heat transfer between the second pressurized air stream and the exhaust stream to heat the exhaust stream.